


## Declaration of Uwe Lehmann

I, Uwe Lehmann declare and say as follows:

1. I am citizen of Germany, resident at St. Gallerstrasse 42a / CH 7320 Sargans / Switzerland, and I am one of the inventors of a miniaturized gas chromatograph and injector for the same disclosed and claimed in my above-identified US-patent application serial number 10/541,145.
2. I am completely familiar with the content of the subject patent application, which I read and understood at the time the application was filed in the US patent office.
3. I have been observing the technical development in miniaturized gas chromatography analytic devices for more than 10 years.
4. From a technical view point, there are two different types of gas chromatographs which are currently in use. The first type of chromatograph which could be referenced to as conventional chromatograph, comprises a column which is usually made from glass in a process where the glass is formed in a molten, deformable state into an elongated tube which may be wound to have different geometries. This type of chromatograph usually relies on an injector which is made from a material using manufacturing techniques like milling, casting and which is mounted using screws, bolts, welding or soldering techniques or the like. This first type of gas chromatographs cannot be manufactured to have smaller dimensions than approximately 100 x 50 x 50 cm. The typical application of such gas chromatographs is the use in scientific laboratories and in industrial chemical production facilities.
5. The second type of gas chromatographs which is known for approximately thirty years now is the so called miniaturized gas chromatograph. This second type of gas chromatographs is entitled to be "miniaturized" to characterize that it is manufactured using techniques applied in micromachining like masking, etching of waver substrates usually made from silicon. This second type is sometimes called a "micro-technological" gas chromatograph as well. The skilled person will acknowledge a "miniaturized" or "micro-technological" gas chromatograph with this second type of gas chromatograph only and will thus take from this wording that the gas chromatograph is manufactured using the above mentioned specific masking, etching and bonding techniques and that the gas chromatograph usually comprises an injector, a column and a detector which size is below or close to 1 x 1 x 1cm.
6. When assessing design or manufacturing techniques of a miniaturized gas chromatograph the skilled person will usually not apply design or manufacturing rules of conventional gas chromatographs of the first type explained above. The reason for this is that the manufacturing techniques of the two types of gas chromatographs explained above are completely different and thus the skilled person would not expect to be able to transfer a design or manufacturing technique from one type of gas chromatograph to the other type.

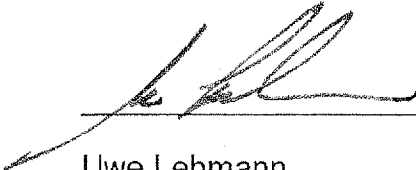
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7. I am further one of the others of the publication "A miniaturized gas chromatographic module on a credit card size mother board" published in Sensor Proceedings, 2003, pages 157-161. I prepared this publication in order to present it on the second IEEE International Conference on Sensors which took place in Toronto, Canada from October 22-24, 2003. The article "A miniaturized gas chromatographic module on a credit card size motherboard" was appointed the reference number B3.3 and was published in sensors, 2003, proceedings of IEEE. This publication was at the first time available not before starting of the tutorials of said conference on October 21, 2003.
  8. Actually, I remember that I finalized the paper "A miniaturized gas chromatographic module on a credit card size motherboard" short before the deadline for online submission which ended on 1 October 2003.
  9. Thus, this paper was not published before the priority date of the above referenced US patent application and actually the paper was no earlier published than 21 October 2003.
  10. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and believed are believed to be true; and further that these statements were made with the knowledge that willful false statements like so made are punishable by fine or imprisonment, or both, under § 1001 of title 18 of the United States Code and that such false statements may jeopardize the validity of the application or any patent issuing thereon.

Further declarant sayeth not

22<sup>nd</sup> March 2010

Date

  
Uwe Lehmann